

AMENDMENTS TO THE CLAIMS

Claims 1-50 (Cancelled)

51. (Previously Presented) A dental implant made of titanium metal, comprising:
- a smooth head portion for receiving a dental restoration component;
 - a lowermost end opposing said head portion;
 - a threaded portion for engaging bone between said head portion and said lowermost end;
 - and
 - a roughened region for facilitating osseointegration with said bone located on said threaded portion and extending to said lowermost end of said implant, said roughened region being uniformly acid etched with a second acid solution after a native oxide layer had been removed by contact with a first acid solution with minimum consumption of said titanium metal, said roughened region including an array of irregularities having peak-to-valley heights not greater than about 10 microns.

Claims 52-59 (Cancelled)

60. (Previously Presented) A titanium metal dental implant of Claim 51, wherein said first acid solution is aqueous hydrofluoric acid.
61. (Previously Presented) A titanium metal dental implant of Claim 51, wherein said second acid solution is a mixture of sulfuric and hydrochloric acids.
62. (Previously Presented) A titanium metal dental implant of Claim 51, wherein said irregularities include cone-shaped elements.
63. (Previously Presented) A titanium dental implant, comprising:
- a head portion for receiving a dental restoration component, said head portion including a non-rotational feature for engaging said dental restoration component, said head portion having a smooth machined surface;

a lowermost end opposing said head portion; and
a threaded portion having continuous thread turns and being located between said head portion and said lowermost end, said threaded portion including a self-tapping region adjacent to said lowermost end, said threaded portion having an acid-etched surface for facilitating osseointegration with said bone, said acid-etched surface extending to said lowermost end of said implant and within said self-tapping region, said acid-etched surface being produced on said threaded portion after a native oxide layer has been removed from said threaded surface, said acid-etched surface having an array of irregularities having peak-to-valley heights not greater than about 10 microns, said irregularities including cone-shaped elements.

64. (Previously Presented) The implant of claim 63, said acid-etched surface is located on said threaded portion below the first uppermost turn of said threaded portion.

65. (Previously Presented) The implant of claim 63, wherein said native oxide is removed by a first acid solution after which the resulting surface is etched with a second acid solution to create said acid-etched surface.

66. (Previously Presented) The implant of claim 65, said first acid solution is aqueous hydrofluoric acid.

67. (Previously Presented) The implant of claim 66, wherein said second acid solution is a mixture of sulfuric and hydrochloric acids.

68. (Previously Presented) A titanium dental implant, comprising:
a head portion for receiving a dental restoration component, said head portion including a non-rotational feature for engaging said dental restoration component;
a lowermost end opposing said head portion; and
a threaded portion having continuous thread turns and being located between said head portion and said lowermost end, said threaded portion including a cylindrical section and a tapered section immediately adjacent to said lowermost end, said

cylindrical section being longer than said tapered section, said tapered section including a self-tapping region that extends to said lowermost end, said threaded portion having an acid-etched surface for facilitating osseointegration with said bone, said acid-etched surface extending from said lowermost end and into said cylindrical section of said threaded portion, said acid-etched surface being produced on said threaded portion after a native oxide layer has been removed from said threaded portion, said acid-etched surface having an array of irregularities having peak-to-valley heights not greater than about 10 microns, said irregularities including cone-shaped elements.

69. (Previously Presented) The implant of claim 68, said acid-etched surface extends from said lowermost end to at least an uppermost turn of said threaded portion.

70. (Previously Presented) The implant of claim 68, wherein said native oxide is removed by a first acid solution after which the resulting surface is etched with a second acid solution.

71. (Previously Presented) The implant of claim 70, said first acid solution is aqueous hydrofluoric acid.

72. (Previously Presented) The implant of claim 70, wherein said second acid solution is a mixture of sulfuric and hydrochloric acids.

73. (Previously Presented) The implant of claim 68, further including a neck portion between said head portion and said threaded portion.

74. (Previously Presented) The implant of claim 73, wherein said neck portion is a smooth machined surface, said head portion having a smooth machined surface.

75. (Previously Presented) The implant of claim 68, wherein said head portion has a smooth machined surface.